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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/325,698	06/03/1999	DAVID X. CHEN	064731.0119	3154

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EXAMINER

NGUYEN, HANH N

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 11/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/325,698

Applicant(s)

CHEN ET AL.

Examiner

Hanh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Application filed on 6/3/99.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 22 is/are rejected.
- 7) ☒ Claim(s) 21 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2-6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 6, 10, 14, 18, 19 and 22 are rejected under 35 USC 103(a) as being unpatentable over **Wiley et al.** (US Pat. No. 6,470,018 B1) in view of **Chopping** (US Pat. No. 6,041,055).

In claims 1, 10 and 18, 19, 22 **Wiley et al.** discloses, in Fig.5, an interworking unit 202 receives STS-N formatted call, where N is an integer at interface 506 (a primary rate switching fabric receiving transport signal at a first level). See col.18, lines 62-67. The Interworking unit 202 (subrate switching fabric) also receives DS-1 formatted calls (TDM) at interface 510. (See col.19, lines 1-5). The TDM call signaling is transmitted via TDM connection 144 (see Fig.2) from a communication device 142 (a subrate switching fabric receiving TDM information). ATM cross connect 204 provides virtual connections (ATM switching fabric receiving third transport signals) carrying ATM cells converted from TDM call signaling; and selects a VCI "A" for transmitting over ATM connection 118 (switching ATM cells among third transport signals). See col.12, lines 27-50. **Wiley et al.** does not disclose TDM signal is more granular than the first signal level.

Chopping discloses, in Fig.1, a switching fabric comprising two switches of different granularities, one is more granularity than the other. They are connected to a primary rate termination (one switch whose granularity is more than the other). See col.5, lines 10-20 & Abstract.

Therefore, it would have been obvious to one skill in the art to use the **Chopping** 's method in order to apply the difference in granularity of switches with **Wiley et al.** so that TDM signals can be switched at a more granularity level than STS-1 level.

In claim 3, **Wiley et al.** discloses Sonet signal can transmitted at fractions of STS-1 such as virtual tributary level whose rate is 60912 Mbps (switching primary rate signals at a virtual tributary level). See col.7, lines 30-40.

In claim 4, **Wiley et al.** discloses Add-Drop Multiplexer 206 provides a call signaling via virtual connection VCI between communication users (Add/Drop Multiplexer perform ATM layer processing). See col.12, lines 27-50.

In claims 6 and 14, **Wiley et al.** discloses a broadband interface 106 that receives TDM signals, STS-1 signals ATM cells and transmits each of the signals to cross connect 204, ADM 206 (signal distributor receives first , second and third transport signals, and communicate the transport signals to its associted switching fabric). See col.11, lines 57-65.

Claims 7-9 and 15-17 are rejected under 35 USC 103(a) as being unpatentable over **Wiley et al.** (US Pat. No. 6,470,018 B1) in view of **Chopping** (US Pat. No. 6,041,055), in view of **Frankel et al.** (US Pat. No. 5,187,706), and further in view of **Flanagan et al.** (US Pat. No. 5,159,595) .

In claims 7 and 15, **Wiley et al.** does not disclose a bridge duplicating the transport signals, and sends the copy of transport signals to primary rate switching fabric and a second time slot interchange. **Frankel et al.** discloses, in Fig.2, broadcast 216 (a bridge) sends a copy (duplicate) of customer traffic (transport signals) from lines 217, 214 to selection 210 at primary central office 102 (primary switching fabric) for restoring traffic when line 213 failes. See col.7, lines 5-15. **Flanagan et al.** discloses a TDM ring connecting nodes 1-4. A node is described in Fig.5 as follllow: STS-1 signal is received at TSI 52 via interface circuit 26 (a first time slot interchange switching transport signal at first level). Transport signals may be received at TSI 54 (second TSI). See col.8, lines 45-50. Therefore, it would have been obvious to one skill in the art to combine the time slot interchanges with **Wiley et al.** to switch /route traffic to different intermediate device in a TDM ring. In addition, it would have been obvious to use the the broadcast 216 of **Frankel et al.** as a bridge in **Willey et al.** for sending a copy of transport signals to a primary switching fabric in order to restore failed communication in a ring network.

In claims 8 and 16, **Wiley et al.** does not disclose a signal selector receiving transport signals, and facilitate transmission of the transport signals to external network elements. **Flanagan et al.** discloses a selector 56, in Fig.5, that receives transport signal STS-1 and transmit to other node in a TDM ring (a signal selector receiving transport signals, and facilitate transmission of the transport signals to external network elements). See col.8, lines 50-55.

In claims 9 and 17, the limitattions of these claims have been addressed in claim 1.

Claims 2, 5 and 11-13 are rejected under 35 USC 103(a) as being unpatentable over **Wiley et al.** (US Pat. No. 6,470,018 B1) in view of **Chopping** (US Pat. No. 6,041,055), and further in view of **Flanagan et al.** (US Pat. No. 5,159,595).

In claims 2, 5 and 13, **Wiley et al.** does not disclose a first time slot interchange, a second time slot interchange receiving transport signals. **Flanagan et al.** discloses a TDM ring connecting nodes 1-4. Node is is described in Fig.5 as folllow: STS-1 signal is received at TSI 52 via interface circuit 26 (a first time slot interchange switching transport signal at first level). Transport signals may be received at TSI 54 (second TSI). See col.8, lines 45-50. Therefore, it would have been obvious to one skill in the art to combine the time slot interchanges with **Wiley et al.** to switch /route traffic to different intermediate device in a TDM ring.

In claim 11 and 12, **Wiley et al.** does not disclose line card and interface card. **Flanagan et al.** disclose an interface circuit 26 (interface card). See Fig.5. Therefore, it would have been obvious to use the interface circuit in the **Wiley et al.** to transceive transport signals to/ from switching fabrics.

Claim 20 is rejected under 35 USC 103(a) as being unpatentable over **Wiley et al.** (US Pat. No. 6,470,018 B1) in view of **Chopping** (US Pat. No. 6,041,055), and further in view of **Frankel et al.** (US Pat. No. 5,187,706).

In claim 20, **Wiley et al.** discloses, in Fig.5, an interworking unit 202 receives STS-N formatted call, where N is an integer at interface 506 (a primary rate switching fabric receiving transport signal at a first level). See col.18, lines 62-67. The Interworking unit 202 (subrate switching fabric) also receives DS-1 formatted calls (TDM) at interface 510. (See col.19, lines 1-

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5). The TDM call signaling is transmitted via TDM connection 144 (see Fig.2) from a communication device 142 (a subrate switching fabric receiving TDM information). ATM cross connect 204 provides virtual connections (ATM switching fabric receiving third transport signals) carrying ATM cells converted from TDM call signaling; and selects a VCI "A" for transmitting over ATM connection 118 (switching ATM cells among third transport signals). See col.12, lines 27-50. **Wiley et al.** does not disclose duplicating the transport signals. **Frankel et al.** discloses, in Fig.2, broadcast 216 (a bridge) sends a copy (duplicate) of customer traffic (transport signals) from lines 217, 214 to selection 210 at primary central office 102 (primary switching fabric) for restoring traffic when line 213 failes. See col.7, lines 5-15. Therefore, it would have been obvious to use the broadcast 216 of **Frankel et al.** for sending a copy of transport signals to a primary switching fabric in **Wiley et al.** in order to restore failed communication in a ring network.

Allowable Subject Matter

Claims 21 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 21, the prior art does not disclose associating the second plurality of transport signals with a first range of time slots associated with the subrate switching fabric; and associating the third plurality of transport signals with a second range of time slots associated with the ATM switching fabric.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Christie et al. (US Pat. No. 6,002,689) discloses System and Method for Interfacing a Local Communication Device.

Dendi et al. (US Pat. No. 6,208,657 B1) discloses Programmable Gateway for a Virtual Bearer Channel Platform.

Sproat et al. (US Pat. No. 6,643,297 B1) discloses Network Service Provider Architecture in Communications Network.

Diaz et al. (US Pat. No. 5,809,021) discloses MultiService Switch for a Telecommunication Network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 703 306-5445. The examiner can normally be reached on Monday-Friday 8:30 AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703 306-4744. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9314 for regular communications and 703 308-9051 for After Final communications.

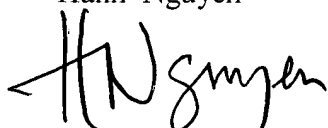
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-4700.

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Hanh Nguyen

A handwritten signature in black ink, appearing to read 'Hanh Nguyen'. The signature is stylized with a large 'H' and 'N'.

November 12, 2003